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JANUARY 29, 1954

Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL BRANCH

AGRICULTURAL RESEARCH SERVICE

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PLANT PEST CONTROL BRANCH

ECONOMIC INSECT SURVEY SECTION

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Branch serves as a clearing house and does not assume responsibility for accuracy of the material.

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Plant Pest Control Branch
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Volume 4 January 29, 1954 No. 4

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

APHIDS damage to small grains increasing in some Georgia areas. (page 62).

Summary of INSECT CONDITIONS - 1953 in Minnesota (page 65), Wisconsin (page 69), and Ohio (page 72).

SCREW-WORM survey report for 1953. (page 76).

Distribution of VEGETABLE WEEVIL in United States. (page 62).

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WEATHER FOR THE WEEK ENDING JANUARY 26, 1954

The week was again extremely cold in the North Central Interior. Subzero temperatures have occurred on 16 consecutive days in parts of North Dakota and northern Minnesota and on 12 days in much of Montana. On the morning of the 23d subfreezing temperatures extended over all of Texas, except the lower Rio Grande Valley; Corpus Christi reported a low of 29° and Galveston 28°. The cold air also overspread the Pacific Northwest where freezing temperatures occurred most of the week and subzero minima were recorded in eastern Washington on the 20th and 21st. During the prolonged period of sub-zero temperatures in the North Central Interior frost has penetrated to unusual depths where the ground is bare. In some sections of Iowa the soil is frozen 3 to 4 feet deep. In the remainder of the Country temperatures generally averaged normal or above. In the Midwest and Southeast weekly averages were about 4° or 5° above normal, and in Florida and some adjacent areas no freezing occurred and daily maxima ranged in the 70's and 80's. (Weather continued on page 78).

CEREAL AND FORAGE INSECTS

A GRAIN MITE (Penthaleus major) TEXAS - Lightly infesting small grains in Jack County. (Hulsey). OKLAHOMA - Light infestations being found in grain in north central area. (Dahms).

APHIDS - GEORGIA Aphids on oats seem to be causing increasing damage. Several fields of oats and one field of wheat in Coffee and Irwin Counties completely destroyed. (Geiger).

FRUIT INSECTS

FLORIDA RED SCALE (Chrysomphalus aonidum) - FLORIDA - New hatch expected to start in early February. (Pratt, Thompson, Johnson).

SCALES (Aspidiotus perniciosus and A. forbesi) - GEORGIA - These insects are at a "low ebb" in Georgia peach orchards due to effective control measures. (Snapp).

TRUCK CROP INSECTS

CLOVER MITE (Bryobia praetiosa) - ARIZONA - Noticeable damage to leaves of squash under caps on Yuma Mesa. (Ariz. Coop. Rept.).

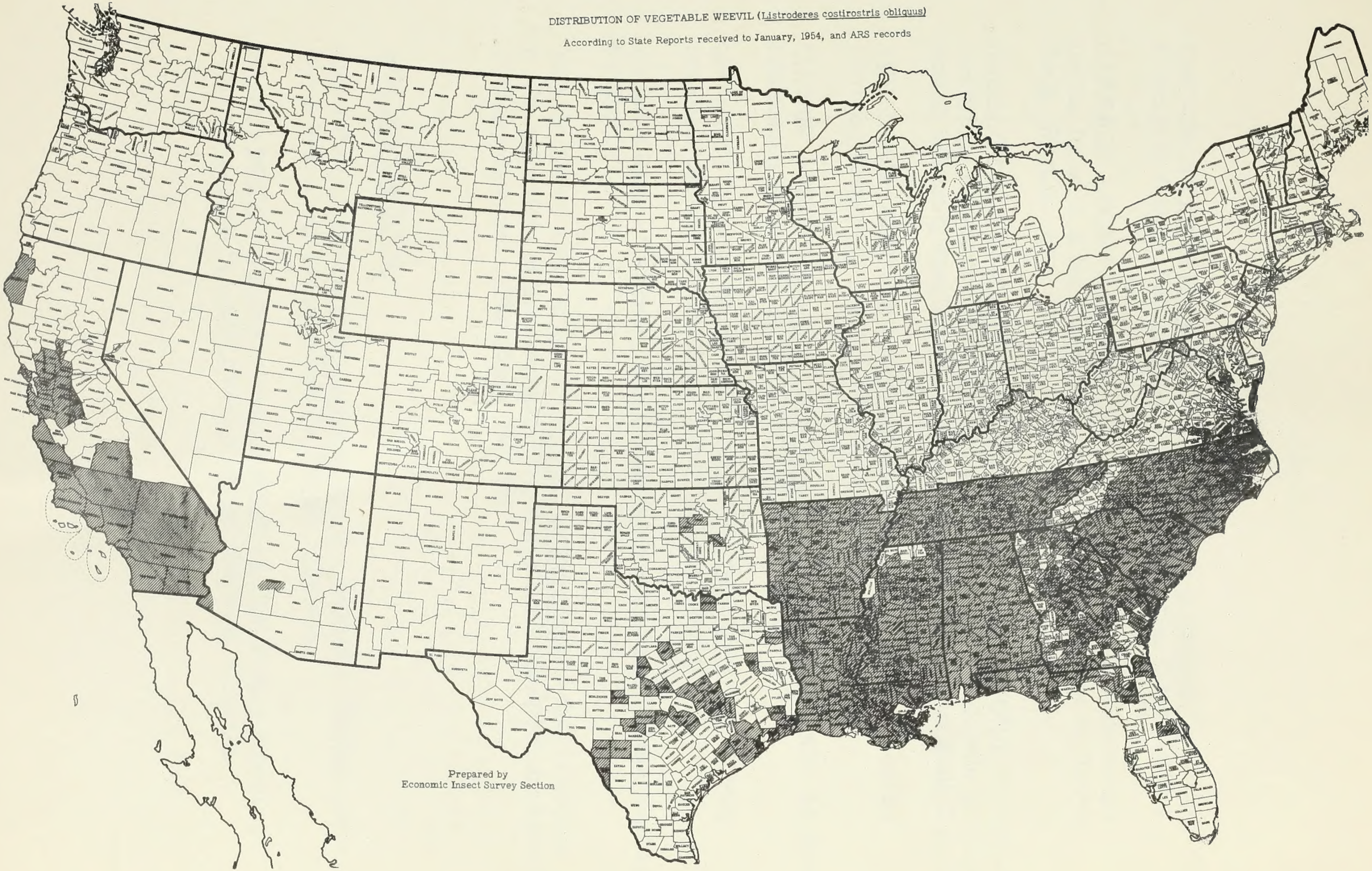
THRIPS (Frankliniella occidentalis) - ARIZONA - Two to six thrips per plant on younger lettuce at Yuma. (Ariz. Coop. Rept.).

Distribution of Vegetable Weevil

The map on the opposite page shows the known distribution of vegetable weevil according to State reports and Agricultural Research Service records. In obtaining the data, an inquiry was sent to each State Clearing House. The response has been excellent with 96 percent of the States replying to date. The distribution is based on actual records in so far as possible.

DISTRIBUTION OF VEGETABLE WEEVIL (Listroderes costirostris obliquus)

According to State Reports received to January, 1954, and ARS records



Prepared by
Economic Insect Survey Section

TWO-SPOTTED SPIDER MITE (Tetranychus bimaculatus) - ARIZONA - Present in fields of older lettuce in Yuma. (Ariz. Coop. Rept.)

CABBAGE LOOPER (Trichoplusia ni) - ARIZONA - First-instar larvae found in a few fields of young lettuce in Yuma area. (Ariz. Coop. Rept.).

CABBAGE APHID (Brevicoryne brassicae) - CALIFORNIA - Weather conditions favorable for development and southern California growers having difficulty keeping this insect under control. (Campbell, Jan. 15).

APHIDS ON LETTUCE - TEXAS - Undetermined species heavily infesting lettuce in lower Rio Grande Valley. (Wene).

TURNIP APHID (Rhopalosiphum pseudobrassicae) - TEXAS - Medium infestation on turnips in Hidalgo County. (White).

MAGGOTS ON WATERMELON - TEXAS - Undetermined species heavily infesting watermelon seed in Willacy County. (Griffith).

WIREWORMS - TEXAS - Heavily infesting carrots in Hidalgo County. (White).

SUGAR-BEET WIREWORM (Limonius californicus) - CALIFORNIA - A 200-acre field of potatoes near Chino was not harvested on account of heavy damage. (Campbell, Jan. 15).

FOREST INSECTS

LEAF GALLS ON OAK (Neuroterus spp.) - TEXAS - Medium infestation of few oak trees around Seabrook. (Davis).

BARK APHIDS - TEXAS - Undetermined species lightly infesting oaks and pecans in small locality around Houston. (Davis).

INSECTS AFFECTING MAN AND ANIMALS

EAR TICK (Otobius megnini) - OKLAHOMA - More numerous and widespread in central and western areas than usual. (Howell).

A SOWBUG (Porcellio laevis) - TEXAS - Medium infestation around homes in Hidalgo County. (White).

STORED PRODUCT INSECTS

STORED-GRAIN INSECTS - TEXAS - Lesser grain borer (Rhyzopertha dominica), saw-toothed grain beetle (Oryzaephilus surinamensis), black carpet beetle (Attagenus piceus) lightly but generally infesting old wheat in Panhandle and South Plains elevators. (Dines).

MISCELLANEOUS INSECTS

TEXAS LEAF-CUTTING ANT (Atta texana) - TEXAS - Have been building up in Cherokee County for several years. Now causing considerable damage to winter cover crops and pine seedlings. (Heald).

RECENT IMPORTANT INTERCEPTIONS AT PORTS OF ENTRY

Wood-boring Insects - Logs, lumber and wood boxes, crates or baskets entering the United States from foreign countries are occasionally found infested with living foreign insects. Recent interceptions at various ports included the following: A Scolytid, Pityogenes chalcographus L. in a spruce crate in cargo from Sweden at New York (Bellis) and in pine in cargo from Germany at New Orleans (Hoover); two Cerambycids, Cordylomera spinicornis (F.) in mahogany logs in cargo from French Equatorial Africa at Philadelphia (Freedland), and Xylostera globosa Oliv. in monkey pod lumber from Hawaii at Seattle (Goodall, Nelson); a Bostrichid, Sinoxylon anale (Lesne)in wood from Pakistan at New York (Bellis);and a termite, Herterotermes convexinotatus (Snyder) in logs from Colombia at New York (Trafford). None of these insects are known to occur in the continental United States.

SUMMARY OF INSECT CONDITIONS

MINNESOTA

Compiled by J. W. Butcher

Insects in Apple Orchards: AN APPLE CURCULIO (*Tachypterellus quadrigibbus magna*) again appeared to be limited in its distribution to a small area in the southeastern corner of Minnesota. Activity of overwintering adults was first noted on May 20th, a time between the pink and full blossom periods. Many growers sprayed too late with the result that higher populations and consequently higher damage occurred than in 1952. PLUM CURCULIO (*Conotrachelus nenuphar*) was again prevalent throughout orchard areas. Overwintering beetles first became active during the pink stage. Poorly sprayed and neglected orchards exhibited up to 100 percent scarred and distorted fruit at harvest time. Early injury by curculio contributed to a heavy June drop. CODLING MOTH (*Carpocapsa pomonella*) increased considerably in most orchards. Favorable weather during August and September encouraged development of an unusually large second generation. Two to five percent injury occurred in orchards that have not been concerned with codling moth the past 3 years. The overall APPLE MAGGOT (*Rhagoletis pomonella*) population was somewhat lower in 1953; however, adult flies persisted in showing much late-season activity. FRUIT TREE LEAF ROLLER (*Archips argyrospila*) suddenly increased this year in 2 locations and caused severe damage. Previously, it has been at a very low economic level. (Bulger, Aamodt).

Insect Pests of Nursery and Landscape Stock: PINE NEEDLE SCALE (*Phenacaspis pinifoliae*) was generally quite prevalent and populations appeared to be on the increase. EUROPEAN FRUIT LECANIUM (*Lecanium corni*) and COTTONY MAPLE SCALE (*Pulvinaria vitis*) were present in large numbers but populations of parasites appeared to be building up. TWO-SPOTTED SPIDER MITE (*Tetranychus bimaculatus*) and *Tetranychus* sp. populations appeared to be building up in the northeastern section of the State.

CYCLAMEN MITE (Tarsonemus pallidus) continued to be a problem on strawberry plants. Evidence now appears to indicate that the condition known as "nubbins" is caused by this pest. POTATO LEAFHOPPER (Empoasca fabae) was present on many species of shade trees. TARNISHED PLANT BUG (Lygus lineolaris) was present on some herbaceous perennials. (Trampe, Nelson).

Insects Affecting Forage and Field Crops: Unfavorable weather during spring and summer of 1953 postponed hatching of all species of GRASSHOPPERS. Nymphal development again was slow and quite heavy mortality occurred throughout some areas of the State. The 1953 adult and egg surveys show mostly non-economic to light infestations with only very small isolated areas having threatening populations. Melanoplus femur-rubrum was observed to be somewhat more widespread and abundant than in 1952, while other species such as M. bivittatus, M. mexicanus, M. differentialis and Camnula pellucida were found to be less abundant than during 1952. (Buzicky). EUROPEAN CORN BORER (Pyrausta nubilalis) - Rainy, cool weather in late June and early July restricted moth activity and as a result, egg laying was somewhat reduced. Corn height during the egg laying period was short in relation to borer development and this condition contributed to a lower survival rate of newly-hatched borers. Cool weather during the latter part of July and the first half of August delayed development of larvae. Limited information available on September 1st indicated that from 32 percent to 75 percent first-generation larvae in the various districts had pupated or emerged as second-generation moths. Tabulation of corn borer survey data shows the State average to be 64 borers per 100 plants in 1953 as compared with 89 per 100 plants in 1952. Of the 79 counties surveyed, 25, mostly in the western and northern areas of the State, had higher counts than in 1952. Fifty counties, located largely in the eastern and southern sections of the State, had lower counts than in 1952. The most heavily infested counties (90 or more borers per 100 plants) were found in the southwest quarter of the State, with Renville County having the highest count of 352 borers per 100 plants. As of October 16, 79 percent of the borers were in the fifth or last larval stage, 11 percent in the fourth, 6 percent in the third and 1 percent in the second. Since only mature borers survive winter conditions, it is likely that only the fourth and fifth larval stages could mature sufficiently to overwinter.

1954 Outlook: Borer populations during the past four seasons have flucuated at a fairly low level. Although the 1953 fall borer count of 64 per 100 plants is considerably lower than the 89 count of 1952, a greater proportion of the borers in 1953 were found to be in a mature condition. There are sufficient numbers of mature, overwintering corn borers to cause considerable loss in 1954, especially if weather conditions are favorable for borer development at the time of egg laying and hatching. (Sandve). LYGUS BUGS were moderately abundant on alfalfa and ranged from 1 to 4 per single sweep of a 12 inch insect net. Where not controlled, they caused injury to alfalfa grown for seed. Red clover also suffered some Lygus injury, while injury to alsike clover was less important. ALFALFA PLANT BUG (Adelphocoris lineolatus) continued to be less abundant than Lygus bugs. POTATO LEAFHOPPER (Empoasca fabae) was very abundant in the southern half of Minnesota during July, August, and September; causing severe injury to the second crop of alfalfa. A CLOVER SEED WEEVIL (Miccotrogus picirostris) was abundant locally in alsike clover fields of northern Minnesota. In some fields, 4-8 individuals were found per sweep of a net. Other alsike clover fields had low to moderate populations of only 1 or 2 per sweep. CLOVER SEED MIDGE (Dasyneura leguminicola) and CLOVER SEED CHALCID (Bruchophagus gibbus) were important pests of red clover grown for seed.

POTATO LEAFHOPPER became very abundant on potatoes in the southern half of Minnesota during July and August. ONION MAGGOT (Hylemya antiqua) and CABBAGE MAGGOT (Hylemya brassicae) continued to cause extensive injury in the Twin Cities area and less severe injury at Hollandale. SWEETCLOVER WEEVIL (Sitona cylindricollis) was very numerous in spring of 1953 (10-30 weevils per crown). Ample moisture provided by heavy rains appeared to lessen injury through feeding. SPINACH LEAF MINER (Pegomya hyoscyami) was less abundant at Hollandale in 1953 than in either 1951 or 1952. (Peterson).

GREENBUG (Toxoptera graminum) infestations developed in approximately one dozen southwestern Minnesota Counties during the latter half of June. Severe crop damage occurred in Redwood, Renville and Sibley Counties. By June 20 hot weather and predator build-up brought about a decline in greenbug numbers. (Sandve).

Forest and Shade Tree Insects: A WILLOW APHID (Lachnus salignus) was abundant on willow that had been planted for a snow catch at Luverne, Rock County. Aphids were restricted to the stems and the lower portions of limbs. (Granovsky). WALKINGSTICK (Diapheromera femorata) was present but did not develop as was anticipated, probably because of low temperatures that occurred during the early part of the summer of 1953. As in 1951, the last previous year of widespread walkingstick feeding, 1953 overall defoliation did not approach the level observed in 1949. Only in hardwood stands south of Pillager in central Minnesota was evidence of heavy defoliation found. A CECIDOMYID gall was very abundant and conspicuous on aspen throughout much of the area heavily defoliated by forest tent caterpillar in previous years. Throughout most of the State also, injury by Eucosma sonomana, a jack pine shoot borer, was very much in evidence. In at least one area south of Walker, a stand of aspen, heavily defoliated by forest tent caterpillars for the past three years showed 20 percent of the trees with fresh POPLAR BORER (Saperda calcarata) oviposition injury. Anticipated outbreaks of the INTRODUCED PINE SAWFLY (Diprion simile) and the RED-HEADED PINE SAWFLY (Neodiprion lecontei) did not develop.

FOREST TENT CATERPILLAR (Malacosoma disstria) persisted at epidemic levels throughout the northern half of Minnesota. The comparison of 1953 defoliation with that of 1952 indicates a definite shifting of the defoliation pattern outward from the center of the epidemic. The Mesaba Iron Range forms a boundary between defoliated and undefoliated areas, just as it had in the early build-up stages of the infestation. Older infestation centers around Walker and Basswood Lake were not significantly defoliated in 1953. Protracted low temperatures which followed unseasonably high temperatures in early May produced a gradual attrition due to icing and starvation of caterpillars as a result of their inability to feed in the spring of 1953. Oak, ash, and to some extent poplar foliage was completely frozen particularly in the southwest part of the State in the spring of 1953. As a result of cold weather just after hatching, widespread heavy defoliation was not in evidence throughout the State but was localized into apparent discrete islands extending from southern St. Louis County down toward Mille Lac Lake, through Todd County, and north through Becker and Red Lake County.

Aerial reconnaissance surveys carried out in 1953 revealed a considerably larger portion of the infested area to have sustained complete defoliation although the general outline is the same as for the two previous years. The year 1953 marks the fourth annual defoliation through much of the infested area, but it would be more correct to say that two successive years of heavy defoliation in a given locality was the exception rather than the rule. Over-population with subsequent starvation of larvae, excessively heavy rainfalls, with drowning of larvae that had dropped to cocoon, along with poor terminal growth as a result of previous feeding tend to create a fluctuating pattern of defoliation from year to year in a given locality. Nevertheless, the epidemic as such has persisted over a wide area since it was first recognized in 1949.

As late as 1953, mortality of tamarack as a consequence of feeding by the EASTERN LARCH BEETLE (Dendroctonus simplex) was not in evidence over large areas. Local infestations of this insect were observed, but such outbreaks could be associated with cutting for power lines, flooding, or improper slash disposal. Populations of the WHITE-MARKED TUSSOCK MOTH (Hemerocampa leucostigma) were on the increase in Minnesota in 1953. High egg mass counts were recorded in northeast Minneapolis, and northwest St. Paul. Heavy defoliation of shade trees is likely in some parts of the Cities in 1954. (Butcher).

WISCONSIN

Reported by E. L. Chambers

Cereal and Forage Insects: EUROPEAN CORN BORER (Pyrausta nubilalis) caused even less damage to the 1953 bumper corn crop in Wisconsin than last year. The average number of larvae found per 100 stalks during the fall survey was only 27 as compared with 37 in 1952, and 168 in 1949. GRASSHOPPERS (Melanoplus mexicanus, femur-rubrum, bivittatus) were very abundant in the drier light sand areas of the State doing considerable damage in about a dozen counties where considerable control activity was necessary.

CORN EARWORM (*Heliothis armigera*) appears to have regained its title as the No. 1 corn pest in Wisconsin and being very prevalent and causing much more serious damage than any other insect to both sweet and field corn. ARMYWORMS (*Pseudaletia unipuncta*), which were so abundant and destructive in a dozen counties in 1952, were reported from only a few fields of the State and there appears to have been very little damage in 1953. PEA APHID (*Macrosiphum pisi*), very abundant during the late spring and early summer on alfalfa where it caused some damage, did not prove to be a serious pest to peas and very little control activity was necessary in contrast to the usual annual expensive control campaign. POTATO LEAFHOPPER (*Empoasca fabae*) continued to be more abundant and destructive than previously recorded in the State, causing widespread damage to alfalfa, beans, potatoes, and small fruit plantings. MEADOW SPITTLEBUG (*Philaenus leucophthalmus*) was more abundant and destructive than in previous years over much of the State.

Fruit Insects: PERIODICAL CICADA (*Magicicada septendecim*), which was due to appear in 1953 in several localities of Milwaukee, Waukesha, and Walworth Counties, failed to appear although careful and frequent surveys were made in known infested areas and the public was alerted to its possible appearance.

Vegetable Insects: CABBAGE MAGGOT (*Hylemya brassicae*) was a major problem over much of the cabbage growing areas. PICKLEWORM (*Diaphania nitidalis*), which appeared in destructive numbers in several northern counties in 1952, did not cause any apparent damage in summer of 1953. POTATO ROT NEMATODE (*Ditylenchus destructor*) was discovered in a potato field in Langlade County, Wisconsin, for the first time early in October. Subsequent surveys have been made throughout the potato growing areas of the State, and a total of 13 fields were found infested on 11 farms. All but 3 of these farms were within 6 miles of Antigo; the other 3 were within a radius of 20 miles.

Forest Insects: The major serious forest insects included FOREST TENT CATERPILLAR (*Malacosoma disstria*), which caused defoliation of deciduous trees in 6 northwestern counties and appears to be gradually spreading and building up in population each year, and EASTERN TENT CATERPILLAR (*Malacosoma americanum*) was also unusually abundant throughout the State. Other forest pests causing unusual damage to evergreen trees were the INTRODUCED PINE SAWFLY (*Diprion simile*) and SARATOGA SPITTLEBUG (*Aphrophora saratogensis*). The former caused serious defoliation on white pine and other species in several northwestern counties, while the latter was very destructive in several northeastern counties to jack and red pine and necessitated spraying of some 6,000 acres in the Nicolet Forest. PINE TORTOISE SCALE (*Toumeyella numismaticum*) was, likewise, very abundant and destructive in Florence and Marinette Counties where the parasites which usually keep this pest in check in Wisconsin seemed to be lacking. PINE COLLAR WEEVIL (*Hylobius radicis*) has practically destroyed windbreak plantings and other plantations of Scotch pine, and is also now doing damage to jack and red pine. WHITE-PINE WEEVIL (*Pissodes strobi*) has been very abundant in northern Wisconsin causing damage not only to white pine but also to Norway spruce and red pine. FALL WEBWORM (*Hyphantria cunea*) is generally distributed along the highways in southern Wisconsin, and WALKINGSTICKS (*Diapheromera femorata*) caused severe damage to parks and woodlots in Marathon, Shawano, and Fond du Lac Counties.

Household Pests: Of the household pests, the BLACK CARPET BEETLE (*Attagenus piceus*) appears to be one of the most serious problems to home owners. A POWDER POST BEETLE (*Anobium punctatum*) appears to be coming very widespread and injurious. STRAWBERRY ROOT WEEVIL (*Brachyrhinus ovatus*) is becoming a major nuisance around homes and in many sections, as is the HACKBERRY NIPPLE GALL (*Pachypsylla celtidis-mamma*), which is very abundant wherever hackberry trees are grown in the State and is very annoying since the ordinary screen will not keep it out. It is an especially annoying pest whereever fresh paint is being applied.

OHIO

Corn Insects (C. R. Neiswander): EUROPEAN CORN BORER (Pyrausta nubilalis) infestation in Ohio increased slightly in 1953 but the overall damage was not great. There were very few fields of dent corn in which insecticide treatment was warranted. This was true also of the relatively long season strain of sweet corn grown for processing. In case of early-planted market garden corn, on the other hand, injury in most instances was severe if the corn had not been treated. CORN FLEA BEETLE (Chaetocnema pulicaria) was unusually abundant during the early part of the season. Coincident with the abundance of this insect there was a widespread outbreak of Stewart's disease. In some areas of northwestern Ohio, plantings of market garden corn were almost completely destroyed and ma. plantings suffered severe injury. Inasmuch as this insect is known to be a vector of the Stewart's disease organism it is thought the flea beetles were indirectly responsible for the severe damage from this disease.

EARWORM damage in Ohio was greater than usual and occurred over much of the State. In southern Ohio late-platned fields of sweet corn were almost 100 percent infested. Damage from the SOUTHERN CORN ROOTWORM (Diabrotica undecimpuntata howardi) was somewhat less important than usual in 1953. Injury from this insect is always rather sporadic in corn in Ohio. NORTHERN CORN ROOTWORM caused some damage in river bottom land where corn has been grown repeatedly in the same field. ARMYWORM (Pseudaletia unipuncta) caused considerable damage to corn in all areas of the State except in the northwest portion. Where infestation was noted in time, damage was prevented by insecticide treatment.

Forage Crop Insects (Weaver): CLOVER LEAF WEEVIL (Hypera punctata) was abundant on clovers in unusually large numbers in April and May. Diseases reduced the insect numbers to a non-economic level and the crop recovered satisfactorily from the damage. PEA APHIDS (Macrosiphum pisi) were unusually abundant in late April and early May and caused some damage to alfalfa in southern Ohio before a fungus disease reduced the numbers.

MEADOW SPITTLEBUG (Philaenus leucophthalmus) nymphs averaged two to five per stem on alfalfa and red clover. The infestation was about the same as in the past two years. The acreage treated for this pest increased in 1953. ARMYWORM caused extensive damage to grass pastures in May. Infestations were most severe in the southern part of the State. CLOVER ROOT BORER (Hylastinus obscurus) was universally present as usual on red clover. Second-crop red clover was seriously reduced by this pest and by the dry weather in July and August. POTATO LEAFHOPPER (Empoasca fabae) damage to second cutting alfalfa appeared exceptionally severe due to dry conditions. GRASSHOPPERS (mostly Melanoplus femur-rubrum) were exceptionally abundant and destructive in localized areas throughout the State.

Apple Insects (Cutright): CODLING MOTH (Carpocapsa pomonella) was generally much less severe than in 1952. This is thought to be due to lower summer temperatures and also better spraying by growers. From at least one orchard in southwestern Ohio there is now definite proof that the codling moth has developed a resistance to DDT. PLUM CURCULIO (Conotrachelus nenuphar) injury to apples and pears was generally very light. Hard, dry soil conditions in July and August again indicate a further reduction for 1954. APPLE MAGGOT (Rhagoletis pomonella) was very severe on uncared-for and semi-cared for trees in northern Ohio. Two commercial orchards reported some damage. RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) did little damage. Very few orchards had more than 1 percent injured fruit. ROSY APPLE APHID (Anuraphis roseus) was abundant and did much damage. This is the second consecutive year that this insect has been injurious in Ohio. APPLE APHID (Aphis pomi) was probably the number one apple pest of the season. Practically all injury was due to secondary infestations that persisted, in some orchards, until late August. This was also the second consecutive year of severe attacks by this species. LEAFHOPPERS and APPLE RED BUG (Lygidea mendax) were of little importance. EUROPEAN RED MITE (Metatetranychus ulmi) was severe in numerous orchards. Part of this difficulty was due in large part to the development of resistance to parathion and other phosphorus based compounds. TWO-SPOTTED SPIDER MITE (Tetranychus bimaculatus) was serious in only a few orchards.

PEAR PSYLLA (*Psylla pyricola*) was not reported as serious.

Peach Insects (Rings): The following estimate of damage is based upon a survey of 31 orchards which was conducted from August 12 to September 6. One thousand orchard-run fruits in each orchard were examined for insect injury. Percentages of the crop injured injured by each insect were computed and these were then transposed into dollar values with the 1953 peach crop estimated at $2,500,000.00. CATFACING INSECTS , including tarnished plant bug, green stink bug and brown stink bugs, were the most destructive group to the fruits and were responsible for approximately $110,000.00 loss. PLUM CURCULIO, which has been well controlled by the new organic phosphates, took a toll of only $37,500.00 in 1953. ORIENTAL FRUIT MOTH caused about $30,000.00 in damages and RED-BANDED LEAF ROLLER $5,000.00.

The LESSER PEACH TREE BORER which was not included in the survey counts has caused considerable destruction in the past few years and a rough estimate would place damage at $75,000.00. In addition to these insects minor damage has been caused by peach tree borer, terrapin scale, European fruit lecanium, and shot-hole borer.

Vegetable Crop Insects (Sleesman): Unsprayed potatoes and beans were heavily infested with POTATO LEAFHOPPER (*Empoasca fabae*). The overwintering brood of the POTATO FLEA BEETLE (*Epitrix cucumeris*) was unusually large which, together with favorable weather conditions, resulted in a severe infestation of first-brood adults. TWO-SPOTTED SPIDER MITES (*Tetranychus bimaculatus*) were abundant generally on eggplant, lima beans, and vine crops. TOMATO RUSSET MITE (*Vasates lycopersici*) and TOMATO FRUITWORM (*Heliothis armigera*) caused considerable damage to tomatoes grown for processing. Cabbageworms, root maggots, various aphids, cucumber beetles, and Mexican bean beetles were of less than normal importance on truck crops.

Insects on Greenhouse Vegetables (R. B. Neiswander): The insect that caused most damage to greenhouse vegetables in Ohio during 1953 was the TOMATO FRUITWORM. Moths invaded greenhouses in early fall to lay eggs on tomatoes. Infestations were not detected until many small larvae were inside tomatoes where they were protected from the action of insecticides. In a relatively small number of greenhouses the garden centipede was not controlled adequately. The two-spotted spider mite, whitefly, thrips, and various species of aphids which were most troublesome in former years are now controlled effectively with aerosol bombs.

Insects on Woody Ornamentals, Shade and Forest Trees (R. B. Neiswander): The EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) caused considerable damage in northeastern Ohio where many trees in red pine plantings were stunted and deformed. EUROPEAN PINE SAWFLY (Neodiprion sertifer) injured many Scotch and red pine trees in various parts of Ohio. JUNIPER SCALE (Diaspis carueli) occurred primarily in ornamental plantings where many Pfitzer junipers lost their ornamental value. Although a number of species of BARK BEETLES were troublesome in forest plantings where pines were weakened by the drought, perhaps the most important were the elm bark beetles because of the dissemination of the Dutch elm disease which resulted in the death of many elms. BORERS are causing more trouble than usual in shade trees because many trees have been weakened by drought. Both the TWO-SPOTTED SPIDER MITE and the SPRUCE MITE have become more troublesome in recent years.

Turf Insects (Polivka): JAPANESE BEETLE (Popillia japonica) adults caused considerable defoliation to several plant species in Washington, Lake, and Cuyahoga Counties. A marked reduction in plant defoliation was noted in the other areas. There was a decrease in grub population throughout the State due undoubtedly to the hot, dry weather that prevailed during July, August, and September. NORTHERN MASKED CHAFER (Cyclocephala borealis) was fairly abundant in the eastern half of the State and around Toledo. Phyllophaga grubs were not found in large numbers anywhere but CUTWORMS and WEBWORMS (species not determined) were more abundant and destructive than usual. ANTS were not as numerous as in previous years.

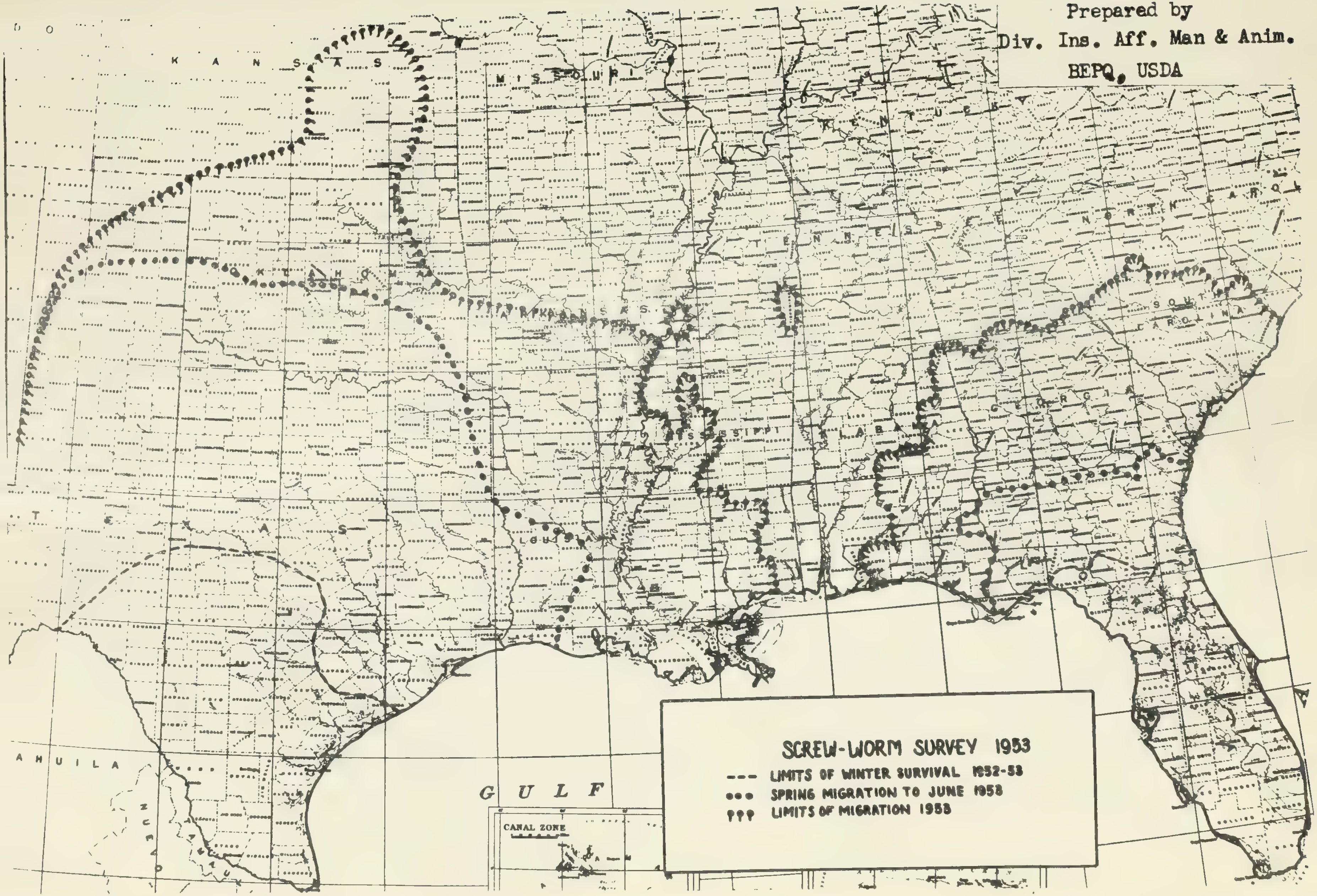
Screw-worm Survey Report 1953

H. M. Brundrett and C. C. Skipper

Periodic surveys during 1953 of the screw-worm (Callitroga hominivorax) were made by B. E. P. Q. in cooperation with State extension personnel and veterinarians in those states, western states excepted, usually concerned with the screw-worm problem. The screw-worm situation throughout the year as determined by these surveys follows. Its seasonal progressive advance from the overwintering area in Texas and Florida is shown on the accompanying map.

Southwestern area (Brundrett): From numerous reports received relative to winter screw-worm cases developing north of the usual winter survival area, it was concluded that overwintering was successful in an area extending 150 miles north of this usual range. A very mild winter was conducive to intermittent fly breeding and a carry-over sufficient to permit the northward spring migration to advance one month ahead of normal. By June 30 scattered cases were found in the southern half of OKLAHOMA and LOUISIANA but evidence indicated a reduction in cases over the panhandle country of TEXAS and Oklahoma due to a continuation of the extreme drought conditions and high temperatures. In Louisiana conditions were more favorable and the northward advance was rapid across the State into Arkansas. A late survey during the last of October and first two weeks of November revealed the probable extent of northward movement for the season when cold weather became sufficiently intense to stop all adult screw-worm fly activity. The western half of KANSAS was reported free of cases in 1953 but nearly all of Texas, Oklahoma, southeastern third of Kansas, the southern half of ARKANSAS and most of Louisiana indicated infestations of more or less intensity. Northern Louisiana and southern Arkansas reported cases to have been more numerous in the summer than for several years. West Texas, Oklahoma and Kansas reports indicated cases to have been very light. The screw-worm infested area in 1953 extended through northeast Oklahoma into eastern Kansas, forming a bulge in the northern line which includes the Osage country of Oklahoma and the Flint Hills of Kansas, from Newton on the west to Manhattan on the north. It is a common

Prepared by
Div. Ins. Aff. Man & Anim.
BEPQ, USDA



SCREW-WORM SURVEY 1953

belief in this area that the arly presence of screw-worms there in the summer is due to the movement of livestock from the south to these pastures, directly or through the stockyards at Kansas City and St. Joseph, Missouri. Through the cooperative efforts of the various agricultural agencies informative knowledge of livestock pest controls has been carried to the stockmen who now reduce their screw-worm losses to a minimum.

Southeastern area (Skipper): Infestations during 1953 appeared to be about normal. During the spring months, cattle served as the most important hosts of the screw-worm in South and Central Florida. After calving season had passed, there was a let up until mid-summer and early fall when hogs were placed in corn and peanut fields in North Florida, South Georgia and southeastern Alabama. Above these areas there are usually some infestations from early to late fall as was the case in 1953.

Several counties in MISSISSIPPI reported screw-worm infestations in July. Some of the lower delta counties reported rather heavy infestations. However, other counties reported only one or two cases. Those counties surveyed and reporting screw-worm infestations were: Tunica, Tishomingo, Monroe, Lowndes, Noxubee, Leflore, Holmes, Washington, Issaquena, Warren, Hinds, Claiborne, Copiah, Simpson, Jones, Covington, Jefferson Davis, Lawrence, Lincoln, Adams, Wilkinson, Forrest, Pearl River, Stone and Harrison. The counties in ALABAMA reporting infestations were: Covington, Butler, Lowndes, Montgomery, Tallapoosa, Chambers, Randolph, Cleburne, Macon, Russell, Bullock, Barbour, Pike, Dale, Henry, Coffee, Geneva and Houston. Usually only a few southeastern counties become infested and the case incidence is low. In GEORGIA, counties along the northern limits of screw-worm infestations were checked and those reporting infestations were: Haralson, Carroll, Douglas, Cobb, Fulton, Gwinnett, Barrow and Elbert. It is safe to assume that all counties to the south of these were infested since the screw worm overwintering area was near the State line. Infestations in SOUTH CAROLINA were apparently confined to the extreme southern counties during most of the season. Most of the more northern counties shown on the map did not report screw-worm infestations until late fall. Counties reporting such infestations were: Abbeville, Laurens, Union, Fairfield, Kershaw, Lee, Florence and Georgetown.

On FLORIDA, light activity was indicated as far west as Santa Rosa County. Very light infestations occurred in Okaloosa and Walton Counties. Heaviest infestations appeared to be in the general area from Perry in Taylor County to Lake City in Columbia County.

[Other states not included in the above survey, reporting screw-worm cases during 1953 include California, Iowa, South Dakota, and Nebraska.]

Weather Continued

Last week's precipitation was rather frequent and widespread, with moderate to heavy amounts in most sections of the Pacific States and the lower plateau region, and in a large eastern area that included the Ohio Valley and extended from northern Louisiana, Arkansas, and southern Missouri to the Atlantic Coast. Weekly totals were very light along the Continental Divide, in the Great Plains, the upper Mississippi Valley, and upper Great Lakes Region. Many stations in the central Great Plains received only a few hundredths or none at all. Precipitation fell in the far Southwest when Pacific storms crossed that area at the beginning and end of the period. Moderate to heavy precipitation occurred daily in the north Pacific area after the 20th. Heavy rains in the East preceded and accompanied the change to colder weather on the 20th and 21st, when thunderstorms were reported by many stations in the South Central and Southeastern States, and occurred in the Southeast again on the 22d when a disturbance that developed over the central Gulf coast on the 21st moved northeastward over Cape Hatteras, N. C. The rains in the far Southwest were highly beneficial. The drought in the Los Angeles area of southern California was ended; in southern Nevada and southern and eastern Utah surface soil moisture was replenished; and in Arizona ranges and stock water supplies were improved. In the East 1- to 3-inch rains in Kentucky, Tennessee, and Virginia also were of great benefit. In Kentucky and Tennessee streams are running again and subsoil moisture has been replenished. In contrast stock water is still low in southern Iowa, northern Missouri, northeastern Oklahoma, and western Pennsylvania; the soil moisture shortage is critical in much of western Texas, and moisture is needed badly in Nebraska, Colorado, central New Mexico, and western Oklahoma. Much of the week's precipitation was in the for of snow in northeastern, northern and, especially, far western areas. (Summary Supplied by U. S. Weather Bureau).